

**Amendments to the Claims:**

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1-9. (Canceled)

10. (Currently Amended) A method for producing a single crystal by Czochralski method ~~with~~ by pulling a seed crystal from a raw material melt, comprising:

immersing a seed crystal into a raw material melt; and

growing a single crystal by rotating and pulling the seed crystal,

wherein the single crystal is pulled with controlling a value of  $V/G$  ( $\text{mm}^2/\text{K} \cdot \text{min}$ ) within a determined range, and the range of a value of  $V/G$  ( $\text{mm}^2/\text{K} \cdot \text{min}$ ), including a desired defect region and/or a desired defect-free region, is determined according to  $T_{\text{max}}$  ( $^{\circ}\text{C}$ ), wherein:

$V$  (mm/min) is the single crystal pulling rate of pulling a single crystal;

$G$  (K/mm) is a temperature gradient at a solid-liquid interface, in a range of the melting point of the raw material and  $1400^{\circ}\text{C}$ ; and

$T_{\text{max}}$  ( $^{\circ}\text{C}$ ) is the highest temperature of the raw material melt at an interface between a quartz crucible inner wall and a raw material melt.

~~wherein when a pulling rate of pulling a single crystal is defined as  $V$  (mm/min), a temperature gradient at a solid-liquid interface is defined as  $G$  (K/mm) and a highest temperature at an interface between a crucible and a raw material melt is defined as  $T_{\text{max}}$  ( $^{\circ}\text{C}$ ), at least, a range of a value of  $V/G$  ( $\text{mm}^2/\text{K} \cdot \text{min}$ ) including a desired defect region and/or a desired defect-free region is determined according to the  $T_{\text{max}}$  ( $^{\circ}\text{C}$ ), and the single crystal is pulled with controlling a value of  $V/G$  ( $\text{mm}^2/\text{K} \cdot \text{min}$ ) within the determined range.~~

11. (Previously Presented) The method for producing a single crystal according to Claim 10, wherein the single crystal is pulled with controlling the value of  $V/G$

(mm<sup>2</sup>/K • min) in a range from  $-0.000724 \times T_{\max} + 1.31$  to less than  $-0.000724 \times T_{\max} + 1.38$ .

12. (Previously Presented) The method for producing a single crystal according to Claim 10, wherein the single crystal is pulled with controlling the value of V/G (mm<sup>2</sup>/K • min) in a range of  $-0.000724 \times T_{\max} + 1.38$  or more.

13. (Previously Presented) The method for producing a single crystal according to Claim 10, wherein the single crystal is pulled with controlling the value of V/G (mm<sup>2</sup>/K • min) in a range from  $-0.000724 \times T_{\max} + 1.31$  to  $-0.000724 \times T_{\max} + 1.35$ .

14. (Previously Presented) The method for producing a single crystal according to Claim 10, wherein the single crystal is pulled with the T<sub>max</sub> (°C) being in a range of 1560 °C or less.

15. (Previously Presented) The method for producing a single crystal according to Claim 11, wherein the single crystal is pulled with the T<sub>max</sub> (°C) being in a range of 1560 °C or less.

16. (Previously Presented) The method for producing a single crystal according to Claim 12, wherein the single crystal is pulled with the T<sub>max</sub> (°C) being in a range of 1560 °C or less.

17. (Previously Presented) The method for producing a single crystal according to Claim 13, wherein the single crystal is pulled with the T<sub>max</sub> (°C) being in a range of 1560 °C or less.

18. (Previously Presented) The method for producing a single crystal according to Claim 10, wherein, at least, the T<sub>max</sub> (°C) is changed by providing a heat insulating material between the crucible containing the raw material melt and a heater provided so as to surround the crucible, or by providing a heat insulating material below the crucible.

19. (Previously Presented) The method for producing a single crystal according to Claim 11, wherein, at least, the  $T_{\max}$  ( $^{\circ}\text{C}$ ) is changed by providing a heat insulating material between the crucible containing the raw material melt and a heater provided so as to surround the crucible, or by providing a heat insulating material below the crucible.

20. (Previously Presented) The method for producing a single crystal according to Claim 12, wherein, at least, the  $T_{\max}$  ( $^{\circ}\text{C}$ ) is changed by providing a heat insulating material between the crucible containing the raw material melt and a heater provided so as to surround the crucible, or by providing a heat insulating material below the crucible.

21. (Previously Presented) The method for producing a single crystal according to Claim 13, wherein, at least, the  $T_{\max}$  ( $^{\circ}\text{C}$ ) is changed by providing a heat insulating material between the crucible containing the raw material melt and a heater provided so as to surround the crucible, or by providing a heat insulating material below the crucible.

22. (Previously Presented) The method for producing a single crystal according to Claim 14, wherein, at least, the  $T_{\max}$  ( $^{\circ}\text{C}$ ) is changed by providing a heat insulating material between the crucible containing the raw material melt and a heater provided so as to surround the crucible, or by providing a heat insulating material below the crucible.

23. (Previously Presented) The method for producing a single crystal according to Claim 15, wherein, at least, the  $T_{\max}$  ( $^{\circ}\text{C}$ ) is changed by providing a heat insulating material between the crucible containing the raw material melt and a heater provided so as to surround the crucible, or by providing a heat insulating material below the crucible.

24. (Previously Presented) The method for producing a single crystal according to Claim 16, wherein, at least, the  $T_{\max}$  ( $^{\circ}\text{C}$ ) is changed by providing a heat insulating material between the crucible containing the raw material melt and a heater provided so as to surround the crucible, or by providing a heat insulating material below the crucible.

25. (Previously Presented) The method for producing a single crystal according to Claim 17, wherein, at least, the  $T_{max}$  ( $^{\circ}\text{C}$ ) is changed by providing a heat insulating material between the crucible containing the raw material melt and a heater provided so as to surround the crucible, or by providing a heat insulating material below the crucible.

26. (Previously Presented) The method of producing a single crystal according to Claim 10, wherein a silicon single crystal is pulled as the single crystal.

27. (Previously Presented) The method of producing a single crystal according to Claim 10, wherein a single crystal with a diameter of 200mm or more is pulled as the single crystal.

28. (Canceled)